

NATIONAL SCIENCE FOUNDATION

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Federal Funds

General and special funds:

RESEARCH AND RELATED ACTIVITIES

For necessary expenses in carrying out the National Science Foundation Act of 1950, as amended (42 U.S.C. 1861–1875), and the Act to establish a National Medal of Science (42 U.S.C. 1880–1881); services as authorized by 5 U.S.C. 3109; [authorized travel;] maintenance and operation of aircraft and purchase of flight services for research support; acquisition of aircraft; [\$3,598,340,000] \$3,783,210,000, of which not to exceed [\$300,000,000] \$320,000,000 shall remain available until expended for Polar research and operations support, and for reimbursement to other Federal agencies for operational and science support and logistical and other related activities for the United States Antarctic program; the balance to remain available until September 30, [2003] 2004: *Provided*, That receipts for scientific support services and materials furnished by the National Research Centers and other National Science Foundation supported research facilities may be credited to this appropriation: *Provided further*, That to the extent that the amount appropriated is less than the total amount authorized to be appropriated for included program activities, all amounts, including floors and ceilings, specified in the authorizing Act for those program activities or their subactivities shall be reduced proportionally: *Provided further*, That \$75,000,000 of the funds available under this heading shall be made available for a comprehensive research initiative on plant genomes for economically significant crops]. (*Departments of Veterans Affairs and Housing and Urban Development, and Independent Agencies Appropriations Act, 2002.*)

[For emergency expenses to respond to the September 11, 2001, terrorist attacks on the United States, for “Research and related activities”, \$300,000 to remain available until expended, to be obligated from amounts made available in Public Law 107–38.] (*Emergency Supplemental Act, 2002.*)

Program and Financing (in millions of dollars)

Identification code 49–0100–0–1–999	2001 actual	2002 est.	2003 est.
Obligations by program activity:			
Direct program:			
00.01 Biological sciences	486	508	526
00.02 Computer and information science and engineering	478	515	527
00.03 Engineering	433	473	488
00.05 Geosciences	564	610	691
00.06 Mathematical and physical sciences	854	921	942
00.07 Social, behavioral and economic sciences	177	169	196
00.09 U.S. Polar research programs	68	68	68
00.10 U.S. Antarctic logistical support activities	214	230	236
00.11 Integrative activities	98	106	111
09.01 Reimbursable programs	77	100	100
10.00 Total new obligations	3,449	3,698	3,883
Budgetary resources available for obligation:			
21.40 Unobligated balance carried forward, start of year	8	2	.....
22.00 New budget authority (gross)	3,433	3,698	3,883
22.10 Resources available from recoveries of prior year obligations	11	.....	.....
23.90 Total budgetary resources available for obligation	3,452	3,700	3,883
23.95 Total new obligations	–3,449	–3,698	–3,883
23.98 Unobligated balance expiring or withdrawn	–1	–2	.....
24.40 Unobligated balance carried forward, end of year	2	.....	.....
New budget authority (gross), detail:			
Discretionary:			
40.00 Appropriation	3,350	3,598	3,783
40.77 Reduction pursuant to P.L. 106–554 (0.22 percent)	–7	.....	.....
42.00 Transferred from other accounts	14	.....	.....
43.00 Appropriation (total discretionary)	3,357	3,598	3,783

Spending authority from offsetting collections:			
68.00 Offsetting collections (cash)	74	100	100
68.10 Change in uncollected customer payments from Federal sources (unexpired)	3	.....	.....
68.90 Spending authority from offsetting collections (total discretionary)	77	100	100
70.00 Total new budget authority (gross)	3,433	3,698	3,883
Change in obligated balances:			
72.40 Obligated balance, start of year	3,461	3,979	4,332
73.10 Total new obligations	3,449	3,698	3,883
73.20 Total outlays (gross)	–2,903	–3,345	–3,609
73.40 Adjustments in expired accounts (net)	–13	.....	.....
73.45 Recoveries of prior year obligations	–11	.....	.....
74.00 Change in uncollected customer payments from Federal sources (unexpired)	–3	.....	.....
74.40 Obligated balance, end of year	3,979	4,332	4,604
Outlays (gross), detail:			
86.90 Outlays from new discretionary authority	736	916	958
86.93 Outlays from discretionary balances	2,167	2,429	2,651
87.00 Total outlays (gross)	2,903	3,345	3,609
Offsets:			
Against gross budget authority and outlays:			
88.00 Offsetting collections (cash) from: Federal sources Against gross budget authority only:	–74	–100	–100
88.95 Change in uncollected customer payments from Federal sources (unexpired)	–3	.....	.....
Net budget authority and outlays:			
89.00 Budget authority	3,356	3,598	3,783
90.00 Outlays	2,830	3,245	3,509

Note—Includes \$74 million in budget authority in BY for research activities transferred from the National Oceanic and Atmospheric Administration, the Environmental Protection Agency, and the U.S. Geological Survey.

The research and related activities appropriation enables the United States to provide leadership and promote progress across the expanding frontiers of scientific and engineering research and education. This appropriation provides resources for NSF to achieve the following goals for strategic outcomes: enabling discovery across the frontier of science and engineering, connected to learning, innovation and service of society; development of a diverse, internationally competitive and globally-engaged workforce of scientists, engineers and well-prepared citizens; and providing broadly accessible, state-of-the-art research and education tools. Research activities will contribute to the achievement of these goals through development of intellectual capital, integration of research and education, and promotion of partnerships. This appropriation supports NSF’s active development of performance indicators.

The major research program activities of the Foundation are:

Biological sciences.—This activity promotes scientific progress in biology through support of research ranging from the study of molecules, through cells and organisms, to studies of ecosystems. This activity also supports a comprehensive research initiative on plant genomes, including research on economically significant crops.

Computer and information sciences and engineering.—Research is directed at “information technology” in the broadest sense of the term, ranging from fundamental theory to systems engineering.

Engineering.—Research supported by this activity aims to increase U.S. engineering capability and strength, and focus that capability and strength on areas which are relevant to national problems and long-term needs. This activity also includes small business innovation research.

General and special funds—Continued

RESEARCH AND RELATED ACTIVITIES—Continued

Geosciences.—This research advances knowledge of the properties and dynamics of the planet Earth.

Mathematical and physical sciences.—Research in this activity is directed at increasing understanding of natural laws and phenomena. It includes research in mathematical sciences, astronomy, physics, chemistry, and materials science.

Social, behavioral and economic sciences.—This activity supports research in social, behavioral and economic sciences, facilitates international scientific cooperation, and funds science resources studies.

U.S. polar research programs.—This activity supports Arctic and Antarctic research and operational science support and other related activities for the United States polar research programs. This activity includes funding for the expenses of the Arctic Research Commission.

U.S. Antarctic logistical support activities.—This activity provides funding for reimbursing Federal agencies for logistical and other related activities for the United States Antarctic program.

Integrative activities.—This activity supports emerging cross-disciplinary research efforts and major research instrumentation. This activity also provides support for the Science and Technology Policy Institute.

Object Classification (in millions of dollars)

Identification code 49-0100-0-1-999	2001 actual	2002 est.	2003 est.
Direct obligations:			
21.0 Travel and transportation of persons	7	7	7
25.1 Advisory and assistance services	25	25	25
25.2 Other services	1	1	1
25.3 Other purchases of goods and services from Government accounts	7	7	7
25.4 Operation and maintenance of facilities	142	150	150
25.5 Research and development contracts	7	7	7
31.0 Equipment	2	2	2
41.0 Grants, subsidies, and contributions	3,181	3,399	3,584
99.0 Direct obligations	3,372	3,598	3,783
99.0 Reimbursable obligations	77	100	100
99.9 Total new obligations	3,449	3,698	3,883

Personnel Summary

Identification code 49-0100-0-1-999	2001 actual	2002 est.	2003 est.
1001 Total compensable workyears: Full-time equivalent employment	4	4	4

ACADEMIC RESEARCH INFRASTRUCTURE

Program and Financing (in millions of dollars)

Identification code 49-0150-0-1-251	2001 actual	2002 est.	2003 est.
Change in obligated balances:			
72.40 Obligated balance, start of year	13	5	
73.20 Total outlays (gross)	-9	-5	
73.40 Adjustments in expired accounts (net)	1		
74.40 Obligated balance, end of year	5		
Outlays (gross), detail:			
86.93 Outlays from discretionary balances	9	5	
Net budget authority and outlays:			
89.00 Budget authority			
90.00 Outlays	9	5	

The academic research infrastructure facilities activity has been terminated. A program to support the acquisition of major research instrumentation has been funded through the

research and related activities appropriation since 1997. This account shows spending from balances prior to the account restructuring.

MAJOR RESEARCH EQUIPMENT AND FACILITIES CONSTRUCTION

For necessary expenses for the acquisition, construction, commissioning, and upgrading of major research equipment, facilities, and other such capital assets pursuant to the National Science Foundation Act of 1950, as amended, [including authorized travel, \$138,800,000] \$126,280,000, to remain available until expended[: *Provided*, That the Director shall submit a report to the Committees on Appropriations by February 28, 2002 on the full life-cycle costs of projects funded through this account since fiscal year 1995]. (*Departments of Veterans Affairs and Housing and Urban Development, and Independent Agencies Appropriations Act, 2002.*)

Program and Financing (in millions of dollars)

Identification code 49-0551-0-1-251	2001 actual	2002 est.	2003 est.
Obligations by program activity:			
10.00 Total new obligations	119	139	126
Budgetary resources available for obligation:			
21.40 Unobligated balance carried forward, start of year	71	73	71
22.00 New budget authority (gross)	122	139	126
23.90 Total budgetary resources available for obligation	193	212	197
23.95 Total new obligations	-119	-139	-126
24.40 Unobligated balance carried forward, end of year	73	71	71
New budget authority (gross), detail:			
Discretionary:			
40.00 Appropriation	122	139	126
Change in obligated balances:			
72.40 Obligated balance, start of year	86	159	132
73.10 Total new obligations	119	139	126
73.20 Total outlays (gross)	-47	-166	-154
74.40 Obligated balance, end of year	159	132	104
Outlays (gross), detail:			
86.90 Outlays from new discretionary authority	11	15	14
86.93 Outlays from discretionary balances	36	151	140
87.00 Total outlays (gross)	47	166	154
Net budget authority and outlays:			
89.00 Budget authority	122	139	126
90.00 Outlays	47	166	154

Object Classification (in millions of dollars)

Identification code 49-0551-0-1-251	2001 actual	2002 est.	2003 est.
25.5 Research and development contracts	11	13	12
41.0 Grants, subsidies, and contributions	108	126	114
99.9 Total new obligations	119	139	126

The major research equipment and facilities construction activity supports the construction and procurement of unique national research platforms and major research equipment. Performance is measured against established construction schedules, costs and milestones.

SALARIES AND EXPENSES

For salaries and expenses necessary in carrying out the National Science Foundation Act of 1950, as amended (42 U.S.C. 1861-1875); services authorized by 5 U.S.C. 3109; hire of passenger motor vehicles; not to exceed \$9,000 for official reception and representation expenses; uniforms or allowances therefor, as authorized by 5 U.S.C. 5901-5902; rental of conference rooms in the District of Columbia; reimbursement of the General Services Administration for security guard services; [\$170,040,000] \$210,160,000: *Provided*, That contracts may be entered into under "Salaries and expenses" in fiscal

year [2002] 2003 for maintenance and operation of facilities, and for other services, to be provided during the next fiscal year. (*Departments of Veterans Affairs and Housing and Urban Development, and Independent Agencies Appropriations Act, 2002; additional authorizing legislation required.*)

Program and Financing (in millions of dollars)				
Identification code 49-0180-0-1-251				
	2001 actual	2002 est.	2003 est.	
Obligations by program activity:				
00.01 Administration and management	167	176	210	
09.01 Reimbursable programs	4	5	5	
10.00 Total new obligations	171	181	215	
Budgetary resources available for obligation:				
22.00 New budget authority (gross)	171	181	215	
23.95 Total new obligations	-171	-181	-215	
New budget authority (gross), detail:				
Discretionary:				
40.00 Appropriation	167	176	210	
68.00 Spending authority from offsetting collections: Offsetting collections (cash)	4	5	5	
70.00 Total new budget authority (gross)	171	181	215	
Change in obligated balances:				
72.40 Obligated balance, start of year	25	23	19	
73.10 Total new obligations	171	181	215	
73.20 Total outlays (gross)	-172	-185	-212	
73.40 Adjustments in expired accounts (net)	-2			
74.40 Obligated balance, end of year	23	19	22	
Outlays (gross), detail:				
86.90 Outlays from new discretionary authority	151	162	193	
86.93 Outlays from discretionary balances	21	23	19	
87.00 Total outlays (gross)	172	185	212	
Offsets:				
Against gross budget authority and outlays:				
88.00 Offsetting collections (cash) from: Federal sources	-4	-5	-5	
Net budget authority and outlays:				
89.00 Budget authority	167	176	210	
90.00 Outlays	168	180	207	

Budget Authority and Outlays Excluding Full Funding for Federal Retiree Costs (in millions of dollars)

Identification code 49-0180-0-1-251				
	2001 actual	2002 est.	2003 est.	
Net budget authority and outlays:				
89.00 Budget authority	161	170	203	
90.00 Outlays	162	174	200	

Note—Includes \$2 million in budget authority in BY for administrative costs for activities transferred from the National Oceanic and Atmospheric Administration, the Environmental Protection Agency, and the U.S. Geological Survey.

This account provides funds to administer and manage NSF programs. NSF continually devises and refines performance measures for development and monitoring of programs.

Object Classification (in millions of dollars)

Identification code 49-0180-0-1-251				
	2001 actual	2002 est.	2003 est.	
Direct obligations:				
Personnel compensation:				
11.1 Full-time permanent	77	80	90	
11.3 Other than full-time permanent	12	13	14	
11.5 Other personnel compensation	3	4	5	
11.8 Special personal services payments	1	1	1	
11.9 Total personnel compensation	93	98	110	
12.1 Civilian personnel benefits	25	27	30	
21.0 Travel and transportation of persons	4	5	6	
23.1 Rental payments to GSA	16	17	17	
23.3 Communications, utilities, and miscellaneous charges	3	3	3	
25.1 Advisory and assistance services	2	2	6	
25.2 Other services	6	6	7	

25.3 Other purchases of goods and services from Government accounts	1	1	1
25.7 Operation and maintenance of equipment	6	6	13
26.0 Supplies and materials	2	3	3
31.0 Equipment	9	8	14
99.0 Direct obligations	167	176	210
99.0 Reimbursable obligations	4	5	5
99.9 Total new obligations	171	181	215

Personnel Summary

Identification code 49-0180-0-1-251				
	2001 actual	2002 est.	2003 est.	
1001 Total compensable workyears: Full-time equivalent employment	1,170	1,150	1,217	

OFFICE OF INSPECTOR GENERAL

For necessary expenses of the Office of Inspector General as authorized by the Inspector General Act of 1978, as amended, [\$6,760,000] \$8,060,000, to remain available until September 30, [2003] 2004. (*Departments of Veterans Affairs and Housing and Urban Development, and Independent Agencies Appropriations Act, 2002; additional authorizing legislation required.*)

Program and Financing (in millions of dollars)

Identification code 49-0300-0-1-251				
	2001 actual	2002 est.	2003 est.	
Obligations by program activity:				
10.00 Total new obligations	6	7	8	
Budgetary resources available for obligation:				
22.00 New budget authority (gross)	6	7	8	
23.95 Total new obligations	-6	-7	-8	
New budget authority (gross), detail:				
Discretionary:				
40.00 Appropriation	6	7	8	
Change in obligated balances:				
72.40 Obligated balance, start of year	2	2	3	
73.10 Total new obligations	6	7	8	
73.20 Total outlays (gross)	-6	-6	-7	
74.40 Obligated balance, end of year	2	3	4	
Outlays (gross), detail:				
86.90 Outlays from new discretionary authority	5	6	6	
86.93 Outlays from discretionary balances	1	2	1	
87.00 Total outlays (gross)	6	6	7	
Net budget authority and outlays:				
89.00 Budget authority	6	7	8	
90.00 Outlays	6	6	7	

This appropriation provides agency-wide audit and investigative functions to identify and correct management and administrative deficiencies which create conditions for existing or potential instances of fraud, waste, and mismanagement consistent with the Inspector General Act of 1978, as amended (5 U.S.C. App. 3).

Object Classification (in millions of dollars)

Identification code 49-0300-0-1-251				
	2001 actual	2002 est.	2003 est.	
11.1 Personnel compensation: Full-time permanent	4	5	5	
12.1 Civilian personnel benefits	1	1	1	
25.1 Advisory and assistance services	1	1	2	
99.9 Total new obligations	6	7	8	

Personnel Summary

Identification code 49-0300-0-1-251				
	2001 actual	2002 est.	2003 est.	
1001 Total compensable workyears: Full-time equivalent employment	46	50	53	

General and special funds—Continued

EDUCATION AND HUMAN RESOURCES

For necessary expenses in carrying out science and engineering education and human resources programs and activities pursuant to the National Science Foundation Act of 1950, as amended (42 U.S.C. 1861–1875), including services as authorized by 5 U.S.C. 3109, [authorized travel,] and rental of conference rooms in the District of Columbia, [\$875,000,000] \$908,080,000, to remain available until September 30, [2003] 2004: *Provided*, That to the extent that the amount of this appropriation is less than the total amount authorized to be appropriated for included program activities, all amounts, including floors and ceilings, specified in the authorizing Act for those program activities or their subactivities shall be reduced proportionally. (*Departments of Veterans Affairs and Housing and Urban Development, and Independent Agencies Appropriations Act, 2002.*)

Program and Financing (in millions of dollars)

Identification code 49–0106–0–1–251	2001 actual	2002 est.	2003 est.	
Obligations by program activity:				
Obligations by program activity:				
Direct program:				
Appropriated activities:				
00.01	Educational system reform	110	45	40
00.02	EPSCoR	89	91	75
00.03	Elementary, secondary and informal education	203	165	171
00.04	Undergraduate education	141	142	136
00.05	Graduate education	88	106	128
00.06	Human resource development	90	97	90
00.07	Research, evaluation and communication	74	68	67
00.08	Math and science partnership .....	.....	160	200
00.91	Subtotal appropriated activities	795	875	908
H–1B non-immigrant petitioner fee activities:				
01.01	Scholarships for individuals (low-income students)	69	55	57
01.02	H–1B K–12 Activities	2	.....	.....
01.03	Systemic reform activities	4	35	36
01.04	Enrichment Courses	4	.....	.....
01.91	Subtotal H–1B non-immigrant petitioner fee activities	79	90	93
02.00	Total direct obligations	874	964	1,000
09.01	Reimbursable programs	21	25	25
10.00	Total new obligations	895	989	1,025
Budgetary resources available for obligation:				
21.40	Unobligated balance carried forward, start of year	60	60	60
22.00	New budget authority (gross)	895	990	1,026
22.10	Resources available from recoveries of prior year obligations	1	.....	.....
23.90	Total budgetary resources available for obligation	956	1,050	1,086
23.95	Total new obligations	–895	–989	–1,025
24.40	Unobligated balance carried forward, end of year	60	60	60
New budget authority (gross), detail:				
Discretionary:				
40.00	Appropriation	787	875	908
40.77	Reduction pursuant to P.L. 106–554 (0.22 percent)	–2	.....	.....
43.00	Appropriation (total discretionary)	785	875	908
Mandatory:				
60.20	Appropriation (special fund)	88	90	93
Discretionary:				
68.00	Spending authority from offsetting collections: Offsetting collections (cash)	21	25	25
70.00	Total new budget authority (gross)	894	990	1,026
Change in obligated balances:				
72.40	Obligated balance, start of year	1,048	1,301	1,350
73.10	Total new obligations	895	989	1,025
73.20	Total outlays (gross)	–630	–940	–985
73.40	Adjustments in expired accounts (net)	–11	.....	.....
73.45	Recoveries of prior year obligations	–1	.....	.....
74.40	Obligated balance, end of year	1,301	1,350	1,391
Outlays (gross), detail:				
86.90	Outlays from new discretionary authority	101	139	143
86.93	Outlays from discretionary balances	518	701	745

86.97	Outlays from new mandatory authority	2	12	12
86.98	Outlays from mandatory balances	9	88	85
87.00	Total outlays (gross)	630	940	985
Offsets:				
Against gross budget authority and outlays:				
88.00	Offsetting collections (cash) from: Federal sources	–21	–25	–25
Net budget authority and outlays:				
89.00	Budget authority	874	965	1,001
90.00	Outlays	609	915	960

Education and human resources (EHR) activities provide a comprehensive set of programs that further NSF’s goal of ensuring a diverse, internationally competitive and globally-engaged workforce of scientists, engineers and well-prepared citizens. At the pre-kindergarten through grade 12 (pre K–12) level, EHR catalyzes reform of science, technology, engineering and mathematics (STEM) education through the development of public-private partnerships. Its pre K–12 programs provide new instructional materials and pedagogical techniques that incorporate the latest advances in teaching, learning, and educational technologies. They also support training activities for pre-service and in-service STEM teachers. Undergraduate programs improve curricula, strengthen laboratory course offerings, enhance faculty, and lead reform efforts in STEM disciplines. Programs for advanced technological education strengthen education for students preparing to enter the high-technology workforce. Graduate level support is directed primarily to fellowships and traineeships to sustain the U.S. world leadership in science and technology. All EHR programming focuses on broadening participation of groups underrepresented in STEM fields including activities focused on the improvement of infrastructure and academic programs at minority-serving institutions. The Experimental Program to Stimulate Competitive Research (EPSCoR) broadens participation of States and regions in science and engineering by helping institutions expand their research capacity and competitiveness. EHR supports research that advances STEM education, as well as development and effective implementation of learning technologies. Evaluation and communications activities ensure accountability by developing indicators that measure program impact and inform the education community of best practices and relevant information. Also included within EHR are funds resulting from the collection and use of H–1B non-immigrant fees, for undergraduate and graduate scholarships in computer science, mathematics, and engineering and private-public partnerships in K–12 for STEM education. This appropriation also supports NSF’s active development of performance indicators.

Object Classification (in millions of dollars)

Identification code 49–0106–0–1–251	2001 actual	2002 est.	2003 est.	
Direct obligations:				
21.0	Travel and transportation of persons	2	3	3
25.1	Advisory and assistance services	17	19	25
41.0	Grants, subsidies, and contributions	855	942	972
99.0	Direct obligations	874	964	1,000
99.0	Reimbursable obligations	21	25	25
99.9	Total new obligations	895	989	1,025

Trust Funds

DONATIONS

Unavailable Collections (in millions of dollars)

Identification code 49–8960–0–7–251	2001 actual	2002 est.	2003 est.	
01.99	Balance, start of year

Receipts:				
02.00	Donations to the National Science Foundation	28	45	49
Appropriations:				
05.00	Donations	-28	-45	-49
07.99	Balance, end of year			

73.10	Total new obligations	32	45	49
73.20	Total outlays (gross)	-28	-45	-49
74.40	Obligated balance, end of year	12	12	12

Program and Financing (in millions of dollars)

Identification code 49-8960-0-7-251

	2001 actual	2002 est.	2003 est.	
Obligations by program activity:				
00.01	Ocean drilling programs	16	17	16
00.02	Gemini telescope	14	13	14
00.03	Other	2	1	1
00.04	Atacama large millimeter array telescope (ALMA—Phase II)		10	10
00.05	Constellation observing system for meteorology ionosphere and climate (COSMIC)		4	8
10.00	Total new obligations	32	45	49
Budgetary resources available for obligation:				
21.40	Unobligated balance carried forward, start of year	21	18	18
22.00	New budget authority (gross)	28	45	49
23.90	Total budgetary resources available for obligation	49	63	67
23.95	Total new obligations	-32	-45	-49
24.40	Unobligated balance carried forward, end of year	18	18	18

New budget authority (gross), detail:				
Mandatory:				
60.26	Appropriation (trust fund)	28	45	49

Change in obligated balances:				
72.40	Obligated balance, start of year	9	12	12

Outlays (gross), detail:				
86.97	Outlays from new mandatory authority	28	45	49

Net budget authority and outlays:				
89.00	Budget authority	28	45	49
90.00	Outlays	28	45	49

This account consists of contributions from foreign governments, organizations and individuals to fund various cooperative efforts in science, research and education. These efforts include major international projects, such as operation of the GEMINI telescope, the NSF Ocean drilling program, and construction of the Atacama Large Millimeter Array Telescope. Other smaller activities supported include cooperative research, joint seminars, exchange of senior scientists, short-term research development visits, international conferences, and support for certain special functions of NSF and the National Science Board. These funds are not otherwise available.

Object Classification (in millions of dollars)

	2001 actual	2002 est.	2003 est.	
Identification code 49-8960-0-7-251				
25.4	Operation and maintenance of facilities	16	17	18
41.0	Grants, subsidies, and contributions	16	28	31
99.9	Total new obligations	32	45	49